

## CLAIMS

What is claimed is:

1           1.     A method for controlling acceleration behavior of a vehicle  
2     comprising:  
3                 determining a rate of change of a pedal position;  
4                 selecting a performance mode based on the rate of change,  
5     wherein the performance mode is indicative of performance characteristics of an  
6     engine;  
7                 determining an acceleration condition; and  
8                 controlling acceleration according to the performance mode  
9     and the acceleration condition.

1           2.     The method of claim 1 wherein determining the acceleration  
2     condition includes determining the acceleration condition according to at least  
3     one of turbine speed, engine speed, vehicle speed, engine acceleration, vehicle  
4     acceleration, and pedal movement.

1           3.     The method of claim 1 wherein the performance  
2     characteristics include transmission ratio and power request damping.

1           4.     The method of claim 1 wherein controlling the acceleration  
2 includes adjusting acceleration according to the performance mode if the  
3 acceleration condition is a first value.

1           5.     The method of claim 4 further comprising selecting a default  
2 performance mode if the acceleration condition is a second value.

1           6.     The method of claim 4 further comprising maintaining the  
2 performance mode for a first period if the acceleration condition is the first value.

1           7.     The method of claim 1 wherein determining the rate of  
2 change includes determining a pedal voltage.

1           8.     The method of claim 7 further comprising:  
2                 filtering the pedal voltage to determine a filtered pedal  
3 voltage;  
4                 comparing the filtered pedal voltage to the pedal voltage;  
5 and  
6                 selecting a performance mode if a rate of change of the  
7 pedal voltage exceeds a rate of change of the filtered pedal voltage.

1           9.     The method of claim 8 wherein filtering the pedal voltage  
2 includes filtering the pedal voltage at a filter, wherein the filter includes alpha  
3 values indicative of engine speed and vehicle speed.

1           10.    The method of claim 9 wherein the alpha values vary as a  
2 function of engine speed divided by vehicle speed.

1           11.    An electronic throttle controller comprising:  
2                   a first module that determines a rate of change of a pedal  
3 position;  
4                   a second module that selects a performance mode  
5 according to the rate of change;  
6                   a third module that generates an acceleration signal,  
7 wherein the acceleration signal is indicative of a duration of acceleration; and  
8                   a controller that communicates with the second module and  
9 the third module and controls acceleration according to the performance mode  
10 and the acceleration signal.

1           12.    The electronic throttle controller according to claim 11  
2 wherein the first module determines the rate of change according to a pedal  
3 voltage and a filtered pedal voltage.

1           13. The electronic throttle controller according to claim 12  
2 wherein the second module selects the performance mode if a rate of change of  
3 the pedal voltage exceeds a rate of change of the filtered pedal voltage by a  
4 threshold.

1           14. The electronic throttle controller according to claim 11  
2 wherein the acceleration signal is a first value if a vehicle speed, an engine  
3 speed, and the pedal position are constant.

1           15. The electronic throttle controller according to claim 14  
2 wherein the acceleration signal is a second value if at least one of the vehicle  
3 speed, the engine speed, and the pedal position are not constant.

1           16. The electronic throttle controller according to claim 15  
2 wherein the controller adjusts the acceleration according to the performance  
3 mode if the acceleration signal is the second value.

1           17. The electronic throttle controller according to claim 11  
2 wherein controlling the acceleration includes at least one of adjusting a  
3 transmission ratio and damping a power request.

1           18. An electronic throttle controller comprising:  
2           a sensor that determines a pedal voltage;

3                   a filter that filters the pedal voltage to generate a filtered  
4 pedal voltage;  
5                   a comparator that compares the pedal voltage to the filtered  
6 pedal voltage;  
7                   a controller that communicates with the comparator and  
8 selects a performance mode if a rate of change of the pedal voltage exceeds a  
9 rate of change of the filtered pedal voltage by a threshold.